

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated February 8, 2005. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1-18 are under consideration in this application. Claims 1-12 are being amended, as set forth above and in the attached marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim Applicants' invention. New claims 13-18 are being added to recite other embodiments described in the specification.

All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejection

The specification was objected for various informalities and has requested correction thereof. As indicated, the specification has been amended as required by the Examiner. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

Allowed Subject Matter

Claims 4-6, 8 and 9 would be allowed if rewritten in independent form to include the limitations of the base claim and any intervening claims.

Prior Art Rejections

Claims 1-3, 11 and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 6,396,652 to Kawachi et al. (hereinafter "Kawachi") in view of US Pat. No. 6,243,222 to Boutaghou et al. (hereinafter "Boutaghou"), claim 7 was rejected as being unpatentable over Kawachi and Boutaghou and further in view of US Pat. No. 6,285,521 to Hussein (hereinafter "Hussein"), and claim 10 was rejected as being unpatentable over Kawachi and Boutaghou and further in view of US Pat. No. 5,754,355 to Nakamura et al.

(hereinafter “Nakamura”). The above rejections have been carefully considered, but are most respectfully traversed.

The magnetic disk storage system of the invention (for example, the embodiment depicted in Figs. 1 & 3), as recited in claim 13, comprises: a first motor 310 which rotates a magnetic disk 300; a first motor drive circuit 110 which drives the first motor 310; a second motor 340 which moves the magnetic head HD; a second motor drive circuit 120 which drives the second motor 340; a magnetic head HD being adapted to make smaller a gap between the magnetic head HD and a surface of the magnetic disk 300 as a rotational speed of the first motor 310 increases ([0009], [0015] of the publication of the application); and a central processing unit 260 which controls the first motor drive circuit 110 and the second motor drive circuit 120 by using a voltage V_{spn} which is generated by rectifying a first back electromotive force V_{bemf} (Fig. 3; [0039]) of the first motor 310 so as to perform a retract control, said retract control including shifting the magnetic head HD to a standby position when a first power supply V_{cc1} to the system is interrupted ([0048], [0049] of the publication of the application).

The invention, as recited in claim 1, is directed to a magnetic disk storage system including all the elements recited in claim 13, and a boost circuit 130 which boosts a voltage V_{spn} (Fig. 3; [0040]) which is generated by rectifying a first back electromotive force V_{bemf} of the first motor 310, so as to generate a first voltage V_{bst} ($\sim V_{spn} + 5\text{ V}$) when a first power supply V_{cc1} to the magnetic disk storage system is interrupted ([0039] of the publication of the application). The second motor drive circuit 120 is specified to drive the second motor 340 in accordance with a control of a drive control circuit 100 by using the first voltage V_{bst} as a second power supply to the second motor drive circuit 120 when the first power supply V_{cc1} to the magnetic disk storage system is interrupted ([0038], [0040] of the publication of the application). The central processing unit 260 is specified to supply the drive control circuit 100 with a first current command value for the second motor drive circuit 120 by using the voltage V_{spn} as a third power supply to the central processing unit 260 so as to perform a retract control, said retract control including shifting the magnetic head HD to a standby position when the first power supply V_{cc1} to the magnetic disk storage system is interrupted. The drive control circuit 100 is specified to control the second motor drive circuit 120 in accordance with the first current command value by using the first voltage V_{bst} as the second power supply to the drive control circuit 100 when the first power supply V_{cc1} to the magnetic disk storage system is interrupted ([0031]-[0032] of the

publication of the application).

The invention, as recited in claim 11, is directed to a magnetic disk storage system including all the elements recited in claim 1, wherein, when the magnetic head HD is loaded from the standby position to the surface of the magnetic disk 300, the drive control circuit 100 makes a rotational speed of the first motor 310 slower than a rotational speed at the time that the magnetic head HD moves above the surface of the magnetic disk HD.

By boosting a voltage V_{spn} which is generated by rectifying a first back electromotive force V_{bemf} of the first motor 310 and supplying the boosted voltage V_{bst} to the central processing 260 when a first power supply V_{cc1} to the system is interrupted, the invention can shift the magnetic head HD to the standby position by a retract control of the central processing unit 260 when a first power supply to the system is interrupted ([0049]). By operating the retract control when a first power supply to the system is interrupted, it makes possible to shift the magnetic head to the standby position safely and accurately.

Applicants contend that none of the cited prior art references teaches or suggests a magnetic disk storage system having such “a central processing unit 260 which controls the first motor drive circuit 110 and the second motor drive circuit 120 by using a voltage V_{spn} which is generated by rectifying a first back electromotive force V_{bemf} of the first motor 310 so as to perform a retract control, said retract control including shifting the magnetic head HD to a standby position when a first power supply V_{cc1} to the system is interrupted (claims 1, 11 & 13)” according to the invention.

In contrast, Kawachi doesn't generate any voltage by rectifying a first back electromotive force of the first motor 15 (Fig. 16) supplied to the central processing unit 20 (Fig. 20). The central processing unit 20 neither operate to execute a retract control when a first power supply to the system is interrupted,

Boutaghou shares the same deficiencies as Kawachi. Boutaghou doesn't generate any voltage by rectifying a first back electromotive force of the first motor 1100 (Fig. 11) supplied to a central processing unit. Boutaghou doesn't have a central processing unit operating to perform a retract control when a first power supply to the system is interrupted. Hussein and Nakamura also share the same deficiencies as Kawachi.

Applicants contend that the cited references or their combinations fail to teach or disclose each and every feature of the present invention as recited in at least the independent

claims 1, 11 and 13. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

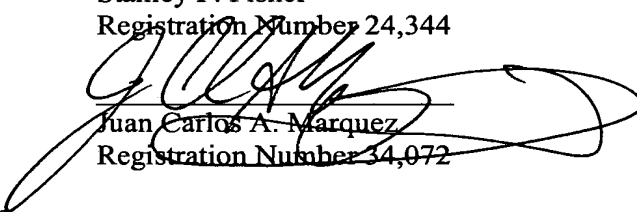
Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

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